



County of Erie

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HEALTH ADVISORY #283

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Increase in Reported Cases of Pertussis

Please distribute to Emergency Departments, Infection Control Departments, Employee Health Services, Infectious Disease Departments, Pediatrics, Director of Nursing, Medical Director, Pharmacy, Laboratory Director and all patient care areas.

SUMMARY

- Pertussis activity continues to increase in New York State (NYS). As of April 20, 2011, preliminary data for 2011 shows 175 pertussis cases. Final 2010 data indicates 721 cases in NYS with most cases occurring in the second half of the year. Reports of disease continue to be received both sporadically and in outbreaks throughout New York outside of New York City
- Over the past month, schools throughout Erie County have reported increases in the number of pertussis cases.
- We are asking providers to consider pertussis when seeing patients with compatible illness and to immediately report suspect cases to the local health department (LHD) and institute appropriate infection control measures.
- Providers should ensure that all patients are vaccinated according to the current recommendations for tetanus, diphtheria, and acellular pertussis (DTaP or Tdap).

BACKGROUND

Healthcare providers and schools throughout Erie County are reporting an increase in pertussis cases. Healthcare providers and school officials, in cooperation with the Erie County Department of Health (ECDOH), have provided treatment and control recommendations for cases of pertussis and their contacts.

CLINICAL AND DIAGNOSTIC INFORMATION

Pertussis is a highly communicable, vaccine-preventable disease that lasts for many weeks and is typically manifested in children with paroxysmal spasms of severe coughing, whooping, and posttussive vomiting. The attack rate for pertussis is between 70% and 100% among susceptible household contacts.

Transmission occurs by direct or airborne contact with respiratory droplets, or by direct contact with objects contaminated with respiratory secretions from infectious individuals. The period of communicability is from the onset of symptoms to 21 days after the onset of cough.

Major complications are most common among infants and young children and include hypoxia, apnea, pneumonia, seizures, encephalopathy, and malnutrition. Young children can die from pertussis and preliminary data from 2010 shows that 22 of 26 pertussis related deaths in the United States were in children younger than 1 year old. Additionally, 2 infant deaths from pertussis in NYS occurred in April 2011 in babies under the age of 2 months. Most deaths occur among unvaccinated children or children too young to be vaccinated.

Testing for pertussis is most reliable when performed early in the course of the illness and prior to the initiation of antibiotic treatment. Testing must be done on nasopharyngeal specimens obtained by using *Dacron*, NOT cotton swabs. A pharyngeal or throat swab is not acceptable for pertussis testing.

Acceptable diagnostic methods for pertussis include polymerase chain reaction (PCR) and culture. PCR testing of nasopharyngeal aspirates or swabs is a rapid, sensitive, and specific method for diagnosing pertussis. It is available at NYSDOH's Wadsworth Center as well as other approved laboratories.

Culture for *Bordetella pertussis* is performed on special media culture and its fastidious growth requirements make it hard to isolate. Specimens obtained within 3 weeks of cough onset have a higher proportion of culture positive results. Prior antibiotic treatment or a history of vaccination may interfere with culture growth.

Direct fluorescent antibody (DFA) and serology are not reliable testing methods. Neither is recommended for the diagnosis of pertussis.

TREATMENT AND PROPHYLAXIS

Antibiotics given during the catarrhal stage may lessen the severity of the disease and decrease communicability. Treatment after the third week of cough is of questionable benefit. Persons with pertussis are considered non-infectious after having completed 5 days of any of the appropriate antibiotics or if at least 21 days have elapsed since the onset of cough. The macrolide agents erythromycin, clarithromycin, and azithromycin are preferred for the treatment of pertussis in persons aged >1 month. For infants aged <1 month, azithromycin is preferred;

erythromycin and clarithromycin are not recommended. For treatment of persons aged >2 months, an alternative agent to macrolides is trimethoprim-sulfamethoxazole. Prophylaxis of all household members and other close contacts with antibiotics may prevent or minimize transmission. The same antibiotic regimens and doses described above for treatment are used for prophylaxis.

REPORTING OF CONFIRMED OR SUSPECT CASES

All suspect, probable, or confirmed pertussis cases must be reported to the local health department in the county in which the individual resides. For Erie County residents, please call the Erie County Department of Health at **(716) 858-7697** (Monday – Friday 8:30 AM – 4:30 PM).

VACCINE

Combination vaccines used to prevent diphtheria; tetanus and pertussis include DTaP and Tdap. DTaP is given to children younger than 7 years of age and Tdap is given to older children over the age of 10 and adults.

ADDITIONAL INFORMATION

For general information on pertussis from the CDC:

<http://www.cdc.gov/vaccines/vpd-vac/pertussis/default.htm>

Complete clinical information including recommendation for proper laboratory testing is available at:

<http://www.cdc.gov/vaccines/pubs/surv-manual/chpt10-pertussis.htm#7>

Current treatment information is available at:

Recommended antimicrobial agents for the treatment and postexposure prophylaxis of pertussis; 2005 CDC guidelines. MMWR 2005;54(No. RR-14).

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm>

Vaccine recommendations are available by accessing:

Pertussis Vaccination: Use of Acellular Pertussis Vaccines Among Infants and Young Children Recommendations of the Advisory Committee on Immunization Practices (ACIP)

<http://www.cdc.gov/mmwr/PDF/rr/rr4607.pdf>

Preventing tetanus, diphtheria, and pertussis among adults; use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP) and recommendation of ACIP, supported by the Healthcare Infection Control Practices Advisory Committee (HICPAC), for use of Tdap among health care personnel.

<http://www.cdc.gov/mmwr/PDF/rr/rr5517.pdf>

Preventing tetanus, diphtheria, and pertussis among adolescents; use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP).

<http://www.cdc.gov/mmwr/PDF/rr/rr5503.pdf>

Health Category Definitions:

Health Alert FLASH: conveys the highest level of importance due to a large-scale, catastrophic public health emergency; warrants immediate action or attention

Health Alert Priority: conveys the highest level of importance; warrants immediate action or attention to a health problem or situation

Health Advisory: provides important information for a specific incident or situation; may not require immediate action

Health Update: provides updated information regarding an incident or situation; no immediate action necessary

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